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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/003,417 | 12/06/2001 | Jin-seok Hong | Q65283 | 5427 |

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EXAMINER

SHARMA, SUJATHA R

| ART UNIT | PAPER NUMBER |
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2684

DATE MAILED: 09/10/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,417

Applicant(s)

HONG, JIN-SEOK

Examiner

Sujatha Sharma

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2.3</u> | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1,2,4,6,7,12,13,15,17,18,21 are rejected under 35 U.S.C. 102(a) as being anticipated by Hwang [WO 00/74275].

Regarding claims 1,6,12,17,21 Hwang discloses a method of novel system for handoff where a channel construction of a base station is disclosed. Hwang further discloses a base station/a wireless communication apparatus transmitting and receiving data wirelessly, comprising:

- a transmitting portion for transmitting the data through at least one frequency channel. See page 8, lines 18-27
- controller for obtaining a number of transmittable channels of a counterpart wireless communication apparatus that the wireless communication apparatus intends to communicate with (controller 101 processes the messages received on a forward dedicated control channel, the said message related to packet data service i.e. message indicating number of supplemental channels required by the counterpart wireless apparatus), and processing to transmit the data through the transmitting portion according to the obtained number of transmittable channels (the controller 101 enables/disables the individual channel generators and thus assigns/releases supplemental channels). See page 8, lines 18-35.

Regarding claims 2,13, Hwang discloses the base station/wireless communication apparatus of claim 1, wherein when the counterpart wireless communication apparatus receives the data through a plurality of frequency channels, the controller transmits the data through the plurality of frequency channels to the counterpart wireless communication apparatus (the controller 101 enables/disables the individual channel generators and thus assigns/releases supplemental channels). See page 8, lines 18-35.

Regarding claims 4,7,15,18 Hwang further discloses a method wherein the at least one frequency channel includes a basic channel for supporting a communication with other wireless communication apparatuses having a single channel/fundamental channel, and a plurality of additional channels consecutively or inconsecutively positioned with respect to the basic channel. See page 8, lines 18-35.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3,10,14,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Rune 2003/0012173].

Regarding claims 3,10,14, Hwang discloses all the limitations as claimed. However he does not disclose a method wherein, when the wireless communication apparatus is operated as a master, the controller obtains the number of transmittable channels of the counterpart wireless communication apparatus, by performing an inquiry operation with the counterpart wireless communication device. Hwang obtains the number of transmittable channels from the counterpart wireless communication device on a forward-dedicated control channel

Rune, in the same field of endeavor, discloses a method where the base station/wireless communication apparatus polls a slave/counterpart wireless communication device to obtain frequency information. See Page 1, paragraphs 6,7,8; summary of invention, page 4, paragraphs 50,52.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Rune to Hwang in order to reduce the signaling information and thus efficiently utilize the network resources.

Regarding claim 23, Rune further discloses a method of operating a piconet by configuring the wireless apparatuses in a master/slave environment. See summary of invention.

5. Claims 5,8,16,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Bluetooth specifications [XP-002214950].

Regarding claims 5,8,16,19, Hwang discloses all the limitations as claimed.

Hwang further discloses the method of assigning a fundamental channel and supplemental channels wherein the fundamental channel and supplemental channels will become traffic channels. However he does not disclose a method wherein, while transmitting the data in parallel, the controller applies a frequency hopping pattern to the plurality of additional channels, corresponding to a frequency hopping pattern applied to the basic channel.

Bluetooth Specifications teaches a method where the hop frequency applied shall be the hop frequency as applied in the time slot where the packet transmission was started i.e. when applying this teaching to Hwang the hop frequency applied to the basic/fundamental channel at the beginning of the transmission will be applied to the consecutive supplemental channels as well. See section 2.3.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Bluetooth specifications to Hwang in order to reduce the interference in the system while accessing frequency channels and thus improve the performance of the system.

6. Claims 9,21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Rinchiuso [US 20020090004].

Regarding claims 9,21, Hwang discloses all the limitations as claimed. Hwang further discloses a method of assigning supplemental channels in addition to the basic/fundamental channel to transmit information to the counterpart wireless communication device.

Hwang, however, does not disclose a method wherein, when the data for transmission is real time data, the controller grades the real time data, and transmits essential data of a basic grade for utilization of the real time data through the basic channel, and transmits the data of other grades through the plurality of supplemental channels.

Rinchuso teaches a method for scheduling and allocating data in a broadband communication system. Rinchuso further discloses a method where the controller in the base station sets the grade or quality of service (QoS) for the fundamental channel carrying voice traffic and the supplemental channel carrying data traffic independent of each other before transmission. See page 1, paragraph 7.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Rune to Hwang in order to efficiently utilize the system resources and provide high-quality voice services.

7. Claims 11,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Uchida [US 20010055973].

Regarding claims 11,22, Hwang discloses all the limitations as claimed. Hwang further discloses a method of assigning supplemental channels in addition to the basic/fundamental channel to transmit information to the counterpart wireless communication device.

Hwang, however, does not disclose a method wherein when the counterpart wireless communication apparatus receives the data through one channel, the controller transmits the data through a basic channel.

Art Unit: 2684

Uchida, in the same field of endeavor, discloses a method where data is transmitted on a basic channels and a supplemental channel is assigned only if required. See page 3, paragraph 45.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Uchida to Hwang in order to efficiently utilize the system resources.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rune [US 2001/0005368] Method and communication system in wireless ADHOC networks

Igarashi [US 2003/0139186] Mobile communication system

Deboille [US 6,717,926] Apparatus and associated method by which to transmit beacon signals in radio communication system

Struhasker [US 6,512,751] Method and system protocols for providing voice, data and multimedia services in a wireless local loop system


Haartsen [US 2002/0167961] Dynamic bandwidth allocation in ADHOC wireless piconets

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

Art Unit: 2684

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sujatha Sharma
August 31, 2004


NICK CORSARO
PRIMARY EXAMINER